

iowa archeological society
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FALL MEETING--Held Jointly with South Dakota and Minnesota

At the IAS annual meeting in April the Board voted to accept an invitation from the South Dakota Archeological Society to hold the IAS fall meeting in conjunction with the SDAS's 16th annual meeting to be held at Sioux Falls, September 19-20. The event has since grown into a tri-state meeting with the addition of the Minnesota Archaeological Society. The schedule is as follows:

Friday, September 19, 1986

1:00-1:30 p.m. Registration--Gilbert Science Center, Alumni Auditorium (North entrance).

1:30-4:30 p.m. Papers and Field Reports

6:00-8:00 p.m. B.B.Q. Cook your own meat (Terrace area on North Side of Student Union)

8:30-12:00 p.m. Jazz N' Wine at D'Amato's Little Italy (Downtown Mall--Sioux Falls).

This is a special evening of entertainment featuring cheese, sausage, and wine and the sound of the Billy Van Jazz Ensemble.

Saturday, September 20, 1986

8:30-9:30 a.m. Coffee/Rolls at Archeology Laboratory, Augustana College

9:30 a.m. The Planning Office/City of Sioux Falls will provide buses to transport participants to the Blood Run archaeological site--east of the city--for on-site tour and lecture.

Tour Guide--Dr. Dale Henning

Weather Permitting: Ascent in tethered hot air balloon for aerial view of Blood Run site complex

Lunch in Field--(Bring your own)

2:00-3:30 p.m. Visitation to several additional archaeological sites in the Brandon area.

3:30 p.m. Return to Archeology Laboratory

4:00-6:00 p.m. Open

6:30 p.m. Social gathering at Augustana Student Union

7:00-8:30 p.m. Banquet--Buffalo Roast

8:30 p.m. Banquet Speaker--Fredrick Manfred: "The Old Ones"

In order to register send your name, address, and number attending to: Archeology Laboratory, 2032 South Grange Ave., Sioux Falls, South Dakota 57105. Registration of \$20 per person includes Friday B.B.Q. and Saturday Evening Banquet. (Bring your own meat to the B.B.Q.--salads, dessert, and beverage will be provided.) The Jazz N' Wine party is an additional \$5.50 per person. For further information please contact the Archeology Laboratory at Augustana College (605) 336-5493.

UNUSUAL PIPE FOUND IN BUCHANAN COUNTY

Jim Balding of Independence recently reported the discovery of a historic Catlinite "tomahawk" pipe on a small site (13BC10) located along the Wapsipinicon River in Buchanan County. The specimen compares favorably with early Historic Sioux pipes. LuAnn Jacobs, Office of the State Archaeologist, documented the specimen and placed additional photographs on file at OSA. It is a very unusual specimen (size: 15.5 x 9.3 cm). Note that the "hammer" (right) portion is broken adjacent to the shaft.

IAS BOARD NAMES NEW NEWSLETTER EDITOR



Photo: Deb Zieglowaky

Long-time IAS member, Shiela Hainlin, will become *Newsletter* editor beginning with the December, 1986 issue. Shiela has a background in journalism and a strong interest in Iowa archaeology. She will do an excellent job, but she will need your help with news or activities around the state. Please give her a head start by sending her items for the December issue. Her address is 1434 44th Street, Des Moines, Iowa 50311 (515) 279-5315.

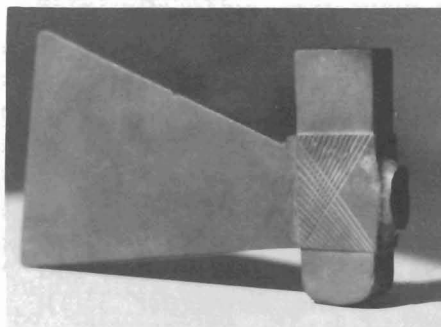


Photo: OSA

SAYLORVILLE LOG PART THREE: BURNED ROCKS AND BURIED ARCHAIC

By David W. Benn

This article is an unabashed celebration of one of the lowliest forms of archaeological evidence: the fire-cracked rock. Rocks as human artifacts have arrived in the limelight of prehistoric studies.

I know I speak for many archaeologists in declaring that the trouble and pain caused by fire-cracked rocks always seems to outweigh the results in cultural insights. One of the "Laws" of fieldwork is that the largest rock artifacts are always found farthest from the vehicle. Rocks are heavy, and tear holes in field sacks; the most useful burned rocks dissolve in the wash water; dozens of kilograms of rock fragments must be identified and weighed to achieve meaningful results, etc.

But, rock middens have been encountered in sites throughout the Midwest. Detailed analysis of utilized rock (or manuports) is fashionable in the current professional literature because evidence for a wide array of human activities has been found in rock artifacts. Aside from their obvious function as heating stones (e.g. heat-transfer in stone boiling, heat-retention in a campfire), cobble tools also can function as hammers, choppers, grinders, pounders, polishers, weapons, weights, skinning tools and probably many unimagined functions. Most rocks and cobble tools probably had multiple functions, the most dominant being heating. Thus, in using the term "fire-cracked rocks," I am employing a shorthand designation for an entire class of cobble tools whose primary attribute is alteration by extreme heat.

Experiences while surveying the shoreline of Saylorville Lake in 1981-84 [see SAYLORVILLE LOG PART I in the *Newsletter* 35(1)] convinced this writer that fire-

cracked rocks were the dominant type of evidence for prehistoric humans. On the approach to terrace escarpments and barren (recently inundated) surfaces of alluvial fans and terraces the first evidence of a site to be seen is broken rock. Careful inspection of the ground surface usually reveals that there are clusters of rocks in the site scatter, and flakes and pottery sherds occasionally appear among the stones.

Fire-cracked rocks and cobble features are difficult to identify on upland sites in northcentral Iowa because of the ubiquitous presence of glacial till. Modified rock is present, though. In the valley floor context where rocks comprise the stream bed, the waterborne (alluvial) sediments of terraces and fans have been sorted by size. Here the occurrence of scattered rocks in an otherwise fine-grained sediment (loam, silt, or sand) is a nearly infallible indicator of human activity. Even Euro-americans caused rocks (often limestone) and gravel to be brought to their sites. In short the evidence I am actually discussing is not merely thermally-altered rock but any rocks that occur outside their *natural context*.

The best attribute of rocks is that they are durable. This is an important aspect of the search for archaeological evidence in sediments that have been weathered (leached) or modified by fluvial processes (rivers and streams) [see SAYLORVILLE LOG PART 2 in the *Newsletter* 35(2)]. For instance, at the Hubby site (13BN38B) the surface evidence of an Archaic component was two broken cobbles on the high terrace escarpment. This meager evidence could have been associated with the Great Oasis component in the plowzone on top of this terrace. However, deep excavations revealed thin lenses of cultural debris between 1-2 m

depth in the sandy sediments that form the bottom of the high terrace. The components yielded tiny fragments of ungulate (deer) bone and black walnut shell from flotation samples, and scattered fire-cracked rocks and mussel shells. This material was attributed to the Late Archaic period because this is the age of high terrace sediments containing the site. Components were exposed in the near-vertical cut of the terrace escarpment, but the only surface evidence surviving annual cultivation and the turbations in sandy sediments was the rocks.

Fire-cracked rock sites are plentiful on Wisconsinan terraces, benches, high terraces and fans that ring Saylorville Lake today. All three landforms are extensively eroded by past cultivation and present day cycles of inundation and exposure as lakeshore. Past investigators deemed most of these sites to be unstratified mixtures of mostly Woodland and some Archaic components, as evidenced by diagnostic artifacts. My project also worked some of these sites with similar results; vague indications of cultural stratigraphy were noted in natural soil horizons formed in blow sands on the terraces. Like previous archaeologists, we discovered large, dark pits filled with fire-cracked rocks and little else. One rock concentration (roasting pit) on 13DA163 contained more than 55 kg (121 lbs) of heated quartzite cobbles (Figure 1). These features were usually positioned at the bottom or below the A soil horizon, but they could not be associated with a particular component.

Fortunately, like carbon, fire-cracked rocks can be dated by chemical means. The thermoluminescence technique was applied to burned rock from a roasting pit at the Klein site (13PK112), giving a result of



Photo: David Benn

Figure 1: Burned and broken rocks in the roasting pit at 13DA163; the test unit containing the feature is 1 x 2 m.

4130 \pm 430 B.P.: 2180 B.C. (Alpha-1281). Rock from a similar pit at 13PK111 gave 2630 \pm 250 B.P.: 680 B.C. (Alpha-1280), and rock from the 13PK251W midden (stratum III) dated 3240 \pm 400 B.P.: 1290 B.C. (Alpha-1517).

The new dates on roasting features widen the perspective of Late Archaic culture in central Iowa. Part of the new knowledge about the Archaic comes from technical advances: the ability to date burned rock, the dating sites by association with landforms of known age. More new evidence about the potential functions of fire-cracked rock comes from careful excavation of Archaic sites buried deeply in fans and terraces.

The Sweet Jane Fan (13BN279; see SAYLORVILLE LOG PART 2) contained Strata II-VI dating between 3190 \pm 190 B.P. (Beta-11116) and 6200 \pm 260 B.P. (Beta-11119) (uncorrected dates), the Middle and Late Archaic periods. Some deer and elk bones were found in these strata, but the majority of faunal remains were small creatures: birds, squirrel, chipmunk, amphibians, fish, mice

and voles, turtles, and mussels. Many of these remains, even the mice/voles and amphibian bones, showed evidence of processing in the form of breakage, burning and differential preservation of parts of the skeleton. Very few chipped stone tools were found with this faunal assemblage, although the presence of many waste flakes indicates such tools were resharpened at the site. The dominant lithics were fire-cracked rocks.

13BN278, another Late Archaic site buried more than 2 m in the high terrace, was dated at 4190 \pm 100 B.P. (Beta-11115). This was a single, temporary campsite on a sandy levee next to the river bank. Two or more small groups of people had kindled fires to process mussels, small bullheads, or catfish, aquatic turtles, a bird, black walnuts, and possibly mice and shrews. These faunal remains were mixed with burned rocks and hearth debris piled around the largest hearth. Feces recovered from the site contained masses of bullhead/catfish bones--the skull and vertebra elements. It is unlikely these were

human feces because the inedible spines from the bullheads/catfish were part of the midden trash.

The picture we get from this evidence is of small bands of Archaic peoples foraging in the valley for practically anything that was edible (by their standards). The widely used term for this pattern is Broad Spectrum Subsistence. The fish being taken were small--a size that must be captured by nets. Small mammals that appear to have been consumed could be caught with snares. Frogs, turtles and walnuts represented in the site refuse could have been gathered by children as well as adults. Lest we visualize this economy as a hand-to-mouth existence, however, it is noteworthy that elk and deer also are represented in valley bottom sites. Hunters had to leave the valley to reach elk in their upland prairie habitat.

The tool inventory left at bottomland Archaic sites matches the broad subsistence base. Prefabricated tools of chipped stone, nets and snares were retained by people for special tasks as they passed from one temporary camp to another. Practically the only hard evidence of use of these tools is the resharpening flakes from chert artifacts and the nature of the faunal remains. The primary processing tools at temporary campsites -- rocks -- were gathered from nearby stream beds or till exposures and were abandoned when people moved to the next camp. Rocks used in this fashion were impromptu tools. Most were heating stones, but any of the same rocks of useful proportions and weight would have been employed as hammers, grinders, mullers etc. Most foods from the valley floor could be processed with unmodified rocks. Mussels were steamed in beds of hot rocks; small mammals, amphibians and fish could be pounded in the skin to crush



Photo: David Benn

Figure 2: Cobble artifacts from the Saylorville investigations; a) three-quarter grooved axe, 13PK322; b) basalt chopper, 13DA162; c) basalt chopper, 13BN279; d) chipped axe/chopper, 13BN38A.

their bones, then roasted in beds of rocks and consumed entirely. Rocks used to process large animals and/or plant tubers and fibers were sometimes shaped by chipping. For instance, simple, heavy choppers made from igneous cobbles were found at several Saylorville sites (Figure 2).

The path of fire-cracked rocks leads to discoveries of heretofore buried sites, to new opportunities for dating alluvial landforms, and to unexplored perspectives of Archaic subsistence practices. To enter this realm of knowledge we have to notice rocks that are out of context, to imagine how those rocks relate to other evidence in the ground, and then to pursue such speculations with scientific excavations.

**REVIEW OF
EXCAVATIONS AT TWO
MISSISSIPPIAN HAMLETS IN
THE CAIRO LOWLAND OF
SOUTHEAST MISSOURI**

Excavations at Two Mississippian Hamlets in the Cairo Lowland of Southeast Missouri. R. Berry Lewis. *Special Publication 2.* Illinois Archaeological Survey, Urbana, 1982. xii + 104 pp. \$4.00 (soft cover).

This publication is a report of the 1970 excavation of the Land-leveling Salvage Project in southeast Missouri conducted under the auspices of the National Park Service. Two Mississippian sites, Hess and Callahan-Thompson, are discussed, and their relationship to the Beckwith's Fort or Towosahgy State Park site (23MI2), a fortified Mississippian town site located on Pinhook Ridge, is examined. The research objects of the project are twofold: to identify and describe hamlets or supporting sites of the Beckwith's Fort site, and to reconstruct the environment and subsistence-settlement practices

of those small supporting communities. The present report addresses the first of these goals.

The report begins with a discussion of the data collection procedures, data description and analysis, and a brief review of pertinent ceramic types from southeast Missouri. The excavation of numerous house features at the Callahan-Thompson and Hess (13MI71 and 23MI55) sites is examined, and a detailed discussion of the ceramic artifact classes is presented.

The discussion section following the site reports addresses several topics: the present utility of the Cairo Lowland phase as an archaeological temporal unit; intra-regional comparisons between Callahan-Thompson, Hess, and other sites in the Cairo Lowland; and a comparison of Callahan-Thompson and Hess with sites of similar age and aboriginal use in other parts of southeast Missouri and adjacent regions.

This is an adequate preliminary report that attempts to identify and describe hamlets or

supporting sites of the Beckwith's Fort or Towosahgy State Park site (23MI2). However, a few inconsistencies or omissions were noted. Artifact categories are not well defined, and the report lacks a general plan and reasoning for the development of the categories. Statistical information is not included. Certain artifact classes (i.e., utilized and retouched flakes) are omitted. On the positive side, the summary section comparing the Hess and Callahan-Thompson sites and other sites in the Cairo Lowland area includes current information and research dealing with the sites that are in an easy to follow chronology.

Excavations at Two Mississippian Hamlets is an informative report that addresses the issue of the relationship of villages and hamlets of single household and task-specific sites to the more well-documented town sites and mortuary contexts.

LuAnn H. Jacobs
Office of the State Archaeologist

REVIEW OF
BEHAVIORAL ARCHEOLOGY

Behavioral Archeology. Michael B. Schiffer. Academic Press, New York, 1976. xviii + 222 pp. \$29.50 (hardbound).

Ten years have passed and this book is still being read and cited by archaeologists concerned with understanding past human behavior. It is a book on archaeological methods and behavioral archaeology as a strategy. Anyone who plans to excavate, analyze, or interpret a site ought to be familiar with the core idea of this work, which is that there is no direct relationship between what happened in the past and the archaeological patterns we observe.

Archaeological deposits have undergone "transformations" between the time they were laid down and when we find them. It is the obligation of the archaeologist to determine both the natural and cultural processes that operated on the deposits and to control for them.

In the natural world, everything from earthworms to tree falls and freeze-thaw cycles works to destroy archaeological relationships. Schiffer calls these N-transforms. Culturally, artifacts can appear in up to four system states; Schiffer calls these C-transforms. Artifacts can be discarded or abandoned, or they can be scavenged, recycled, and re-used. They can be redeposited through successive prehistoric and historic ground disturbances, or they can be heirloom or museum specimens, continuously cycled so they are no longer in archaeological context.

Nearly every site report published in the 1980s has a chapter entitled "Site Formation Processes." What are they? They are none other than Schiffer's C- and N-transforms, interpreted specifically for that site.

While modeling C-transforms and testing them against chipped stone artifacts from the Joint site, a southwestern pueblo, form the core of this book, there are other interesting methods that are examined in some detail. There is a valuable discussion of the archaeological and behavioral meaning of provenience, as well as a critique of the adequacy of types and attributes in an artifact classification scheme.

Behavioral Archeology has been criticized for its lack of theoretical orientation, but there can be no doubt it has influenced how archaeologists think about their data. Such studies performed by archaeologists today as artifact replication and experimentation, modern material culture studies, and ethnoarchaeology, all serve to discover and document how C-transforms operate on artifact patterning. No longer do archaeologists assume that an artifact in the ground lies exactly as it was dropped by its user; just the opposite, it must be demonstrated precisely how it got there before any interpretation about human behavior can be made.

Carl A. Merry

Office of the State Archaeologist

MIDWEST ARCHAEOLOGICAL
CONFERENCE

The Midwest Archaeological Conference will be held October 17-19, 1986, at the Fawcett Center on the Ohio State University campus in Columbus. The keynote symposium is entitled "Interpretations of Culture Change in Eastern North America during the Late Woodland Period." Other symposia are planned on Fort Ancient, Lake Forest Archaic, and a comparison of Late Woodland in Ohio and Illinois. For further information contact Dr. R.W. Yerkes, Anthropology, Ohio State University, Columbus, Ohio 43210 (614) 422-1328.



Photo: Luther College

R. Clark Mallam, 1940-1986

The Society leadership was saddened to learn of the death of one of its long-time friends and most ardent supporters, R. Clark Mallam. Clark, who has been a professor of anthropology at Luther College since 1969, received his doctorate in anthropology from the University of Kansas in 1975. His doctoral dissertation was an exhaustive and highly regarded study of the Effigy Mound manifestation of northeast Iowa and surrounding states. Clark has always been an active member of the IAS. He has hosted meetings for the society, led field trips, presented lectures, and served both as editor and director of the *Journal*. After learning in February that he had cancer, Clark began working on a collection of his boyhood recollections entitled "Indian Creek Memories: A Sense of Place." Luther College is currently accepting contributions to pay publication costs (c/o Dr. Harvey Kleavar, Anthropology, Luther College, Decorah, Iowa 52101). Clark is survived by his wife Judy, son Clark, and daughters Jenny and Sally. All who knew Clark recognized him as one of a kind. His unique perspective of the past coupled with his energy and enthusiasm for midwestern archaeology will long be remembered by his many friends.

SOCIETY INFORMATION

NEW AUDIO-VISUAL PROGRAM ON BUXTON

Many IAS members will remember field trips, book reviews, and *Newsletter* reports about the historic black coal-mining town called Buxton excavated by David Gradwohl and Nancy Osborn of Iowa State University. A new audio-visual program has recently been released in both slide-tape and videocassette formats which would be suitable for presentation at chapter meetings. The program is 23.5 minutes long and provides an excellent summary of the Buxton community. To obtain more information contact: Media Resources Center, 127 Pearson Hall, ISU, Ames, Iowa 50011 (515) 294-1540. Other programs available include "Images of the American Indian," and "Native Americans in the Movies."

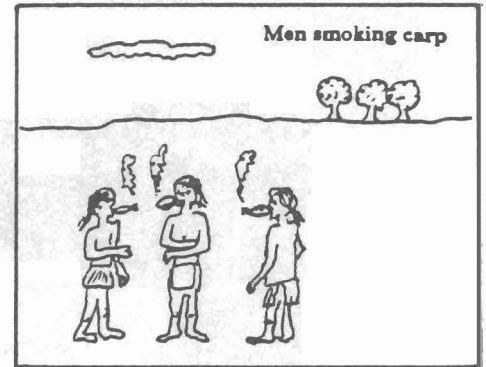
PLAINS ANTHROPOLOGICAL CONFERENCE

The 44th Plains Conference will be held in Denver, Colorado, November 19-22, 1986, at the Marriott Southeast on I-22 and Hampden Avenue. For program details contact Ann M. Johnson, P.O. Box 25287, Denver, Colorado 80225 (303) 236-8675.

DUANE ANDERSON MOVES TO OHIO

Effective October 1, 1986, Duane Anderson will vacate his position as State Archaeologist of Iowa to assume the executive directorship of the Dayton Museum of Natural History in Dayton, Ohio. In his new position, Anderson will be involved in the planning and construction of a new museum and planetarium complex adjoining the museum's present facility. Anderson said that he and his wife, Carol, have mixed feelings about the prospect of leaving Iowa after 20 years, but that they are looking forward to new challenges. Anderson has been a member of IAS since 1966 and has been affiliated with both the Northwest Chapter and the Keyes Chapter. He served as president of the society for five terms and subsequently for three years as a member of the board. As State Archaeologist Anderson has aided the IAS with a number of administrative matters through the years. He asked that we send his thanks and best wishes to the IAS membership for the many years of fellowship and excitement gained through involvement in the society.

INCITES



TO THE MEMBERS OF IAS

I have so enjoyed being an officer of the IAS for 27 years, attending the meetings, keeping the records, processing memberships, and all other duties. My thanks for all your cooperation during those years and the many courtesies extended to me at the annual meeting, especially the certificate and Dale Henning's presentation.

Ruth Thornton

Annual membership dues are as follows:

VOTING

1. Active - \$10
2. Household - \$17
3. Sustaining - \$25
4. Benefactor - \$250 minimum.

NON-VOTING

1. Student (under 18) \$7
2. Institution \$10

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